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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,277	07/14/2000	KLAUS-DIETER HAMMER	051009/0125	1514

22428 7590 06/01/2006

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EXAMINER	
SIMONE, CATHERINE A	
ART UNIT	**PAPER NUMBER**
1772	

DATE MAILED: 06/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/600,277	HAMMER ET AL.	
	Examiner	Art Unit	
	Catherine Simone	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-16 and 18-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-16 and 18-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/19/06 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 13, 14, 16 and 18-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer et al. (US 5,928,737) in view of Voigt et al. (US 5,936,014).

Regarding claims 13, 14, 16 and 42-44, Hammer et al. discloses a seamless, tubular food casing which is blown in an area ratio from 1:2 to 1:10 (see col. 2, lines 19-23), produced from a thermoplastic mixture which comprises a) thermoplastic starch (see col. 2, lines 16-18) and b) at least one other polymer (see col. 3, lines 49-54) wherein a weight ratio of a:b is in a range from 90:10 to 10:90 (see col. 3, lines 54-56). However, Hammer et al. fails to disclose the at least one other polymer being a polyalkylene carbonate of the formula $[CHR^1\text{-}CHR^2\text{-}O\text{-}CO\text{-}O\text{-}]_n$ where R^1

and R^2 independently of one another are a hydrogen atom or a (C_1-C_4) alkyl radical and n is an integer from 10 to 5000, and the thermoplastic starch being a starch ester including a starch acetate.

Voigt et al. teaches that it is old and well-known in the art to have a thermoplastic starch ester, mainly starch acetate, mixed with a polyalkylene carbonate of the formula $[CHR^1\text{-}CHR^2\text{-}O\text{-}CO\text{-}O\text{-}]_n$ where R^1 and R^2 independently of one another are a hydrogen atom or a (C_1-C_4) alkyl radical and n is an integer from 10 to 5000 (see col. 2, lines 55-57 and col. 3, lines 1-14) for the purpose of producing a biodegradable thermoplastic material having increased water stability, good mechanical properties, increased elongation at break and good barrier properties with respect to gas and water vapor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the thermoplastic mixture in Hammer et al. to have the polymer be a polyalkylene carbonate of the formula $[CHR^1\text{-}CHR^2\text{-}O\text{-}CO\text{-}O\text{-}]_n$ where R^1 and R^2 independently of one another are a hydrogen atom or a (C_1-C_4) alkyl radical and n is an integer from 10 to 5000 and the thermoplastic starch be a starch ester including starch acetate as suggested by Voigt et al. in order to produce a biodegradable thermoplastic material having increased water stability, good mechanical properties, increased elongation at break and good barrier properties with respect to gas and water vapor.

Regarding claims 18 and 19, note in Hammer the weight ratio a:b appears to be in the range from 20:80 to 80:20 and in the range 40:60 to 60:40 (see col. 3, lines 54-56). Regarding claims 20 and 21, note in Hammer a plasticizer (see col. 3, lines 1-4) and a weight percent being up to 30% (see col. 3, lines 8-19). Regarding claim 22, note in Hammer the proportion of

plasticizer present in the thermoplastic mixture is up to 15% by weight (see col. 3, lines 8-19). Regarding claims 23 and 24, note in Hammer one lubricant (see col. 3, lines 64-67) and a weight percent being up to 12% (see col. 4, lines 3-5). Regarding claims 25 and 26, note in Hammer the proportion of lubricant present in the thermoplastic mixture is from 2 to 6% by weight based on the total weight of the thermoplastic mixture (see col. 4, lines 3-5). Regarding claims 27 and 28, note in Hammer the thermoplastic mixture is mixed with fibers (see col. 3, lines 42-45) and a weight percent being up to 25% (see col. 3, lines 44-47). Regarding claims 29 and 30, note in Hammer the proportion of fibers present in the mixture is from 2 to 15% by weight based on the total weight of the mixture (see col. 3, lines 44-47). Regarding claims 35 and 36, note in Hammer a crosslinker (see col. 3, lines 60-63) and a weight percent being up to 20% (see col. 3, lines 34-36 and 58-61). Regarding claims 37 and 38, note in Hammer the crosslinker present in the thermoplastic mixture is from 0.5 to 10% by weight based on the total weight of the mixture (see col. 3, lines 58-61). Regarding claim 39, note in Hammer the food casing is provided with an internal preparation and/or external preparation (see col. 41-44). Regarding claim 41, the food casing of Hammer is used as a synthetic sausage casing (see col. 1, lines 35-36).

Furthermore, regarding claims 31-34, Hammer et al. further fails to disclose fillers present in the thermoplastic mixture up to 12%, from 2 to 8% and from 4 to 8% by weight based on the total weight of the mixture and the fillers being calcium carbonate, talc, kaolin or anhydrite. Voigt et al. teaches that it is old and well-known in the art to have a thermoplastic starch/polymer mixture including fillers present up to 12%, from 2 to 8% and from 4 to 8% by weight based on the total weight of the mixture and the fillers including chalk, talc, anhydrite or kaolin (see col. 3, lines 40-44) for the purpose of producing a biodegradable thermoplastic

material having increased water stability, good mechanical properties, increased elongation at break and good barrier properties with respect to gas and water vapor. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the thermoplastic starch/polymer mixture in Hammer et al. to include fillers present in the thermoplastic mixture up to 12%, from 2 to 8% and from 4 to 8% by weight based on the total weight of the mixture and the fillers be calcium carbonate, talc, kaolin or anhydrite as suggested by Voigt et al. in order to produce a biodegradable thermoplastic material having increased water stability, good mechanical properties, increased elongation at break and good barrier properties with respect to gas and water vapor.

In regard to claim 40, it is a process limitation and process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113. In this case, the limitation "extruding the thermoplastic mixture through an annular die and blowing it in an area ratio of from 1:2 to 1:10" is a method of production and therefore does not determine the patentability of the product itself.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer et al. (US 5,928,737) in view of Voigt et al. (US 5,936,014).

Hammer et al. and Voigt et al. teaches the claimed seamless, tubular food casing as detailed above except for the starch ester including a starch alkanoate. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the starch in Hammer et al. to be a starch ester including starch alkanoate, since it has been held that change in the material would be an unpatentable modification in absence of showing unexpected results and it has been held to be within the general skill of a worker in the

art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

5. Claims 13, 14, 16 and 18-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer et al. (US 5,928,737) in view of Bastioli et al. (US 5,801,207).

Regarding claims 13, 14, 16 and 42-44, Hammer et al. discloses a seamless, tubular food casing which is blown in an area ratio from 1:2 to 1:10 (see col. 2, lines 19-23), produced from a thermoplastic mixture which comprises a) thermoplastic starch (see col. 2, lines 16-18) and b) at least one other polymer (see col. 3, lines 49-54) wherein a weight ratio of a:b is in a range from 90:10 to 10:90 (see col. 3, lines 54-56). However, Hammer et al. fails to disclose the at least one other polymer being a polyetherurethane or a polyesteretherurethane, and the thermoplastic starch being a starch ester including a starch acetate.

Bastioli et al. teaches that it is old and well-known in the art to have a thermoplastic starch ester including starch acetate, mixed with a polyetherurethane or a polyesteretherurethane (see col. 3, line 15 and col. 4, lines 9-11) for the purpose of producing a biodegradable article having good mechanical properties and good resilience.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the thermoplastic mixture in Hammer et al. to have the polymer be a polyetherurethane or a polyesteretherurethane and the thermoplastic starch be a starch ester including starch acetate as suggested by Bastioli et al. in order to produce a biodegradable article having good mechanical properties and good resilience.

Regarding claims 18 and 19, note in Hammer the weight ratio a:b appears to be in the range from 20:80 to 80:20 and in the range 40:60 to 60:40 (see col. 3, lines 54-56). Regarding

claims 20 and 21, note in Hammer a plasticizer (see col. 3, lines 1-4) and a weight percent being up to 30% (see col. 3, lines 8-19). Regarding claim 22, note in Hammer the proportion of plasticizer present in the thermoplastic mixture is up to 15% by weight (see col. 3, lines 8-19). Regarding claims 23 and 24, note in Hammer one lubricant (see col. 3, lines 64-67) and a weight percent being up to 12% (see col. 4, lines 3-5). Regarding claims 25 and 26, note in Hammer the proportion of lubricant present in the thermoplastic mixture is from 2 to 6% by weight based on the total weight of the thermoplastic mixture (see col. 4, lines 3-5). Regarding claims 27 and 28, note in Hammer the thermoplastic mixture is mixed with fibers (see col. 3, lines 42-45) and a weight percent being up to 25% (see col. 3, lines 44-47). Regarding claims 29 and 30, note in Hammer the proportion of fibers present in the mixture is from 2 to 15% by weight based on the total weight of the mixture (see col. 3, lines 44-47). Regarding claims 35 and 36, note in Hammer a crosslinker (see col. 3, lines 60-63) and a weight percent being up to 20% (see col. 3, lines 34-36 and 58-61). Regarding claims 37 and 38, note in Hammer the crosslinker present in the thermoplastic mixture is from 0.5 to 10% by weight based on the total weight of the mixture (see col. 3, lines 58-61). Regarding claim 39, note in Hammer the food casing is provided with an internal preparation and/or external preparation (see col. 41-44). Regarding claim 41, the food casing of Hammer is used as a synthetic sausage casing (see col. 1, lines 35-36).

Furthermore, regarding claims 31-34, Hammer et al. further fails to disclose fillers present in the thermoplastic mixture up to 12%, from 2 to 8% and from 4 to 8% by weight based on the total weight of the mixture and the fillers being calcium carbonate, talc, kaolin or anhydrite. Bastioli et al. teaches that it is old and well-known in the art to have a thermoplastic starch/polymer mixture including fillers present up to 12%, from 2 to 8% and from 4 to 8% by

weight based on the total weight of the mixture and the fillers including calcium carbonate or talc (see col. 4, lines 36-40 and line 54) for the purpose of producing a biodegradable article having better mechanical properties and good resilience. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the thermoplastic starch/polymer mixture in Hammer et al. to include fillers present in the thermoplastic mixture up to 12%, from 2 to 8% and from 4 to 8% by weight based on the total weight of the mixture and the fillers be calcium carbonate or talc as suggested by Bastioli et al. in order to produce a biodegradable article having better mechanical properties and good resilience.

In regard to claim 40, it is a process limitation and process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113. In this case, the limitation "extruding the thermoplastic mixture through an annular die and blowing it in an area ratio of from 1:2 to 1:10" is a method of production and therefore does not determine the patentability of the product itself.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammer et al. (US 5,928,737) in view of Bastioli et al. (US 5,801,207).

Hammer et al. and Bastioli et al. teaches the claimed seamless, tubular food casing as detailed above except for the starch ester including a starch alkanoate. It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the starch in Hammer et al. to be a starch ester including starch alkanoate, since it has been held that change in the material would be an unpatentable modification in absence of showing unexpected results and it has been held to be within the general skill of a worker in the

art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Response to Arguments

7. Applicant's arguments with respect to claims 13-16 and 18-44 have been considered but are moot in view of the new grounds of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (571)272-1501. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Catherine A. Simone
Examiner
Art Unit 1772
May 26, 2006

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

5/30/06